On Several New Australian (chiefly) Fresh-Water-Fishes.

By Count F. de Castelnau.

I publish here the description of seven species of fishes that seem to me not to have been described before :—

One, a *Cheilodactylus*, is from the Melbourne market; two small sorts, forming I believe a new genus which I name *Aristeus*, are from fresh water, one being found in the Murrumbidgee and Ropes Creek and the other in the Rockhampton River; two of *Eleotris*, one from the Fitzroy and the other from the Brisbane rivers; an *Atherinichthys* from a fresh water lagoon connected with the Richmond River, and the last a small fish of the family *Siluridæ* from the Rockhampton River (Fitzroy).

Six out of the seven are from fresh water. The Australian fishes from this source still are very little known, but I have reason to believe that their number is very considerable. In fact any person collecting even the most common kinds, particularly the small ones, in any river, lake or stream, is almost certain of rendering good service to science.

Cheilodactylus, rubrofasciatus.

Height of body contained a litttle more than three times in total length up to the base of the caudal; head three times and a half in the same length; dorsal with seventeen spines, of which the 5th, 6th and 7th are the longest; the soft portion is formed of twenty-six rays; this portion is considerably higher than the spinous; caudal strongly emarginated; anal with three spines, the first being the shortest, the second strong and arched, the third long and slender, rays nine; ventrals rather large; pectorals large, of fifteen rays, the six lower ones being simple, the three upper of these longer than all the other rays; body and head covered with scales, rough on their external half, those of the body much larger than those of the head; they number seventeen on the transverse line, and fifty on the longitudinal one; the colour judged by the stuffed skins, and the report of the Taxidermist who skinned

them, seems to have been of a brownish olive, with six broad transverse bands of a rich crimson; head of the last colour; mouth and base of the lower fins of the same colour.

I owe the knowledge of this fine species to Mr. St. John, who procured several specimens in the Melbourne market; they measure from fourteen to eighteen inches in length.

Note.—This sort seems to come near *C. zonatus*, which has been found on the Australian west coast as well as the Chinese seas.

ARISTEUS, n. gen.

This new genus enters the family *Gobiidæ*. Body compressed, oval, rather high, with mouth advanced and nearly pointed; two dorsals, the first short, the second long; caudal truncate; anal very long; ventrals inserted very near one another behind the pectorals, and having a spine and five rays; scales large, not ciliated; teeth crowded on both jaws; small pavement-like teeth very numerous on all the bones of the palate; a transverse line of larger and pointed ones on the vomer; opercles entire; cleft of the mouth small not extending to the line from the orbit; head scaly; no distinct lateral line; lower jaw rather larger than the upper one.

Aristeus Fitzroyensis.

The height of the body is twice and a half in the total length, without the caudal fin; there are twenty-eight scales on the longitudinal line; first dorsal formed of one spine and six rays; second dorsal high, formed of a long strong spine and ten rays; the anal high, very long, with one spine and nineteen rays. Color, silvery brown; the fins spotted with pink. Length, two inches and a half. From the Fitzroy River (Rockhampton.)

Aristeus fluviatilis.

Nearly of the same form as the preceding, but rather more elongate, the last rays of the first dorsal prolonged into a filament more than half the height of the body; caudal slightly bilobed; second dorsal with a strong spine and twelve rays; the anal with one spine and eighteen rays; the general colour of a silvery dark brown; the fins not spotted.

I have two specimens of this fish, one, two and a half inches long. It comes from the Murrumbidgee, and was kindly given

to me by the Hon. W. Macleay; the other was found by Mr. Duboulay, in Rope's Creek, and is three and a half inches long. It has a very feebly marked black longitudinal stripe on each side.

This genus would, perhaps, in Dr. Gunther's System, be included with *Eleotris*, as it comes certainly near Bleeker's genus, *Asteropteryx*, which is in that case, but it is very distinct from it by its long anal fin. This last genus is founded on a species named by Bleeker, *Guntheri*, from the rivers of Sumatra. It is figured by Dr. Gunther in the *Journ. of the Museum Godeffray* fishes pl. XIII. All these fishes are also nearly allied to the *Eleotris cyprinoidis* of Cuvier and Val. from the river St. Maurice in the Isle of Bourbon.

ELEOTRIS SULCATICOLLIS.

Head large, broad, depressed with a deep longitudinal groove on its upper part; form oval, oblong; body compressed; scales rather large, numbering thirty-four on the longitudinal line; first dorsal formed of six rays, the second of eleven; caudal broad and rounded; anal with one spine and eleven rays; both the second dorsal and the anal with the last rays elongated. In liquor the colour is of a bright yellow with the rays of the fins slightly dotted with black.

The specimen is four inches long; from the Brisbane River.

NOTE.—This sort comes near my *Eleotris planiceps*.

ELEOTRIS ADSPERSA.

Body oval, elongate; head rather broad with a groove on the top of the back part; eleven series of scales between the origin of the posterior dorsal fin and the anal; head entirely scaly up to the snout; height of the body contained less than four times in the total length without the caudal fin; diameter of the eye contained more than four times in the length of the head; the cleft of the mouth does not attain the line from the anterior edge of the eye; first dorsal with eight spines; second high, with eleven rays; caudal rounded; anal, of the same form as the second dorsal, of twelve rays. Colour bright brown with the belly yellow (in liquor); body covered with small rounded dark brown

spots; all the fins finely variegated with brown; several olive brown lines on the sides of the head. This species resembles *sulcaticollis*, but the head is much narrower. From the Fitzroy River (Rockhampton).

The specimen, four inches long, belongs to the Queensland Museum.

ATHERINICHTHYS DUBOULAYI.

Height of the body contained only three times and one sixth in the total length without the caudal fin; head four times in the same; body oval, oblong, compressed; the head rather pointed; the eye contained four times in the head; the spinous dorsal commences a little in front of the insertion of the ventral; the first dorsal formed of one spine and five rays, the three first of which are rather produced; the second dorsal is formed of one spine and thirteen rays, the last of which are rather produced; the caudal is strongly forked; the anal of one spine and thirteen rays, the last of which are rather produced; there are thirty scales on the lateral line.

I owe my specimen of this fish, which is a little over three inches long, to Mr. Duboulay who found it in a lagoon of fresh water connected with the Richmond River. He says that the colours were during life most beautiful; that a broad stripe of magnificent blue ran all along the sides, and that two transverse bands of rich scarlet extended on the upper part of the fish towards the middle of the body.

EUMEDA, N. GEN.

Belongs to the *Siluridæ Heteropteræ* of Gunther, and probably comes near *Silurichthys*. Body elongate, compressed; eye placed on the upper part of the head; one dorsal fin with a pungent spine; adipose, none; anal very long and joining the caudal which is obliquely truncated; ventrals inserted behind the perpendicular from the dorsal; three pairs of short barbels, on the anterior part of the snout, at the angle of the mouth, and on the lower jaw; lateral line continued all the length of the body; teeth on both jaws numerous crowded and tubercular with a line of sharp conical ones in front; nostrils remote from each other; head and body covered with a soft skin.

EUMEDA ELONGATA.

The long anal joins the caudal and extends upwards on the end of the tail; the colour (in spirits) is brown, becoming lighter on the lower parts; the fins have a yellowish tinge.

The specimen is four and a half inches long. From the Brisbane River, Rockhampton.

PROPOSED ZOOLOGICAL STATION FOR SYDNEY.

By N. DE MIKLUCHO-MACLAY.

The last meeting of the Linnean Society afforded me an opportunity of referring to the subject of a zoological station. On the present occasion I wish to point out the chief considerations which show the necessity of such an institution, to mention a few facts with regard to institutions of this kind already existing, and to bring before your notice those circumstances which would seem to facilitate the establishment of such a station in Sydney.

I shall make my communication as brief as possible, because, in the first place, it seems scarcely necessary to advocate at great length the utility of zoological stations in general before a scientific audience, and secondly, my knowledge of the English language is not extensive enough to permit me to enter upon a very full discussion.

The chief reason why the establishment of zoological stations becomes every day a matter of increasing importance, and presses itself more and more upon the attention of scientific societies, are two in number.

The *first* is the fact that *museums prove insufficient* for the study of anatomy, histology, and still more embryology, if these studies are to satisfy the demands of modern science. In this fact we find the repetition of the universal rule, that as a science develops itself the field of its investigation is correspondingly enlarged, new and difficult problems present themselves, and the progress of the science depends upon the progressive discovery and application of new or improved appliances. It is not only that the